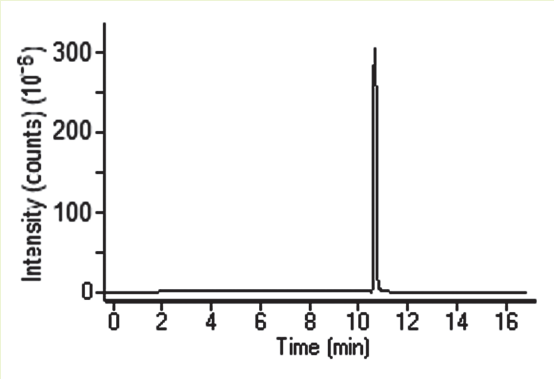
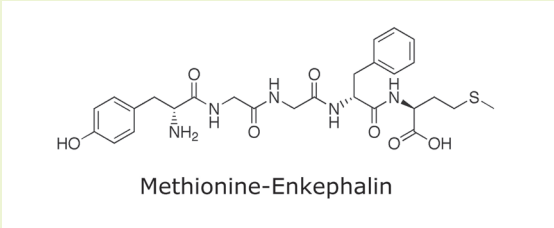
Methionine-Enkephalin (MEK)

Analysis of opiate-like peptide





Methionine-Enkephalin

Note: MEK is a naturally occurring opiate-like peptide which could be used as an analgesic agent. In recent years, there has been growing interest in using peptides as therapeutic drugs. Excellent analytical methods are needed in pharmacokinetic studies of these new drugs, since samples need to be analyzed in a biological matrix and the concentration of the compounds is very low.

Method Conditions

Column: **Cogent Diamond Hydride™**, 4µm, 100Å

Catalog No.: 70000-15P-2

Dimensions: 2.1 x 150 mm

Mobile Phase: A: DI H_2O / 0.1% formic acid (v/v)
B: Acetonitrile / 0.1% formic acid (v/v)

Gradient:

time (min.)	%B
0.0	90
5.0	90
10.0	70
20.0	60
20.1	30
30.0	30
30.1	90

Post Time: 3 min

Injection vol.: 2µL

Flow rate: 0.4 mL/min

Detection: LC–ESI/MS was performed using a Thermo Finnigan SpectraSystem HPLC

Peak: 1. Met-Enkephalin (Tyr-Gly-Gly-Phe-Met), 574.66 m/z

t_0: 0.9 min

Discussion

When the Cogent Diamond Hydride column was used to analyze Methionine-Enkephalin (MEK), the resulting peak shape of this compound was symmetrical. The retention was more than adequate.

In addition to the intact peptide, the gradient applied in the developed method was also designed to analyze its metabolites and enzyme inhibitors. This gradient ANP-HPLC method with MS detection is selective for MEK determination with detection limits in the picomole range.

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